

Kuskokwim Area Commercial and Subsistence Salmon Fisheries
1988 Management Plan

By
Alaska Department of Fish and Game
Division of Commercial Fisheries
Arctic-Yukon-Kuskokwim Region

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TABLE OF CONTENTS

	<u>Page</u>
LIST OF TABLES.....	i
LIST OF FIGURES.....	i
INTRODUCTION.....	1
REGULATION CHANGES FOR 1988.....	2
Kuskokwim River.....	2
Kuskokwim Bay Districts.....	4
COMMERCIAL FISHERIES MANAGEMENT.....	5
Districts 1 and 2, The Kuskokwim River.....	5
District 4, Quinhagak.....	7
District 5, Goodnews Bay.....	8
SUMMARY OF 1988 COMMERCIAL SALMON REGULATIONS, KUSKOKWIM AREA.....	9
SUBSISTENCE SALMON FISHING REGULATIONS.....	13
PERSONAL USE FISHERY.....	14
APPENDIX A	
Kuskokwim Salmon Management Plan, In-season	
Subsistence Salmon Survey.....	25

LIST OF TABLES

<u>Table</u>	<u>Page</u>
1. Kuskokwim Area escapement index objectives for chinook, sockeye, coho and chum salmon.....	16
2. Lower Kuskokwim River, District 1, and the middle Kuskokwim River, District 2, combined commercial salmon harvest, 1960-1987.....	17
3. Quinhagak District commercial harvest, 1960-1987....	18
4. Goodnews Bay, District 5, commercial salmon harvest, 1968-1987.....	19

LIST OF FIGURES

<u>Figure</u>	<u>Page</u>
1. Kuskokwim Area Map.....	20
2. Kuskokwim Management Area, District W-1.....	21
3. Kuskokwim Management Area, District W-2.....	22
4. Kuskokwim Management Area, District W-4.....	23
5. Kuskokwim Management Area, District W-5.....	24

INTRODUCTION

This management plan will inform fishermen, processors, and other interested persons about the status of the 1988 Kuskokwim Area salmon runs and the Department strategies to regulate the salmon fisheries. The map in Figure 1 shows the Kuskowkim Area.

The Division of Commercial Fisheries of the Alaska Department of Fish and Game is responsible for the management of commercial and subsistence fisheries in the Kuskokwim Area. The objective of the Department's research and management program is to manage the salmon runs for optimum sustained yield under the policies set forth by the Alaska Board of Fisheries, including assignment of subsistence as the highest priority among consumptive uses of the resource. Most commercial fishermen take salmon for both commercial and subsistence purposes. In order to enforce commercial fishing regulations it is necessary to place some restrictions on the subsistence fishery.

In 1983, provisional spawning escapement objectives were established for the area's major spawning systems (Table 1). The objectives are the average escapement counts obtained in these systems since 1959. Escapements at objective levels will maintain the salmon stocks at past levels of abundance. Continuing assessment of salmon returns may require future adjustment of the objectives to maximize salmon production.

Commercial fishing time during the season varies in response to return magnitude as shown by commercial catch data, test fishing and spawning escapement monitoring. The Alaska Board of Fisheries, the Department of Fish and Game, the Kuskokwim Area Advisory Committees, subsistence and commercial fishermen, and the processors agreed to work together to share information regarding decisions on the openings and closures of the Kuskokwim River fishery. Department staff and a working group consisting of fishermen and processor representatives will evaluate historic and in-season data on the magnitude of salmon returns when discussing commercial fishing periods.

Kuskokwim area salmon processors will sponsor a test fishery with technical help from the Department. This test fishery will be run by fishermen at a site of their choice. The Department will also be operating a dual beam sonar in the Kuskokwim River for the first time in 1988. The goal of this project is to provide an accurate estimate of all the salmon swimming up the Kuskokwim River. It will require several years before the sonar provides reliable counts. The working group will initiate an in-season subsistence catch reporting system. This should provide more complete information on salmon migration and their numbers. An outline of the subsistence monitoring program is presented on page 25 of this management plan. Lastly, the Department has installed a toll free number (1-800-478-3187) that will allow fishermen throughout the drainage to call and record catch information and their appraisal of run strength 24 hours a day.

Subsistence fishermen will receive catch calenders as in the past and the Department will collect the calenders later in the summer.

Budget cuts and personnel shortages forced the Department to choose between having a catch monitor in Districts 4 and 5 or running the Kanektok Sonar project. The Kanektok Sonar project will not be run this year. The sonar should be operational again in June of 1989. This unfortunate temporary interruption of the project will slow the improvement of fishery management information for District 4.

REGULATION CHANGES FOR 1988

Kuskokwim River:

The Kuskokwim River King Salmon Management Plan was repealed and replaced with the Kuskokwim River Salmon Management Plan. The Kuskokwim River Salmon Management Plan requires the Department to manage the Kuskokwim River (Districts 1 and 2) commercial salmon fishery in the following way:

- (1) no directed commercial king salmon fishery;
- (2) the fishery will open before 21 June;
- (3) only District 1, the lower Kuskokwim downstream of Bethel, will be open during the first commercial fishing period;
- (4) there shall be at least 3 eight hour commercial fishing periods in June;
- (5) the incidental king salmon guideline harvest level is 15,000 to 35,000 fish;
- (6) the Department shall provide at least 24 hours notice of District 1 commercial fishing periods.

In addition the JOINT STATEMENT ON THE MANAGEMENT OF THE KUSKOKWIM RIVER SALMON FISHERY says:

The Board of Fisheries, the Department of Fish and Game, the local Fish and Game advisory committees, and local subsistence and commercial fishermen agree to work together towards the goal of increasing the sustained yield of Kuskokwim River salmon stocks to provide for subsistence needs and an economically viable commercial fishery. To achieve that goal, the parties agree to the following:

1. Kuskokwim River salmon users will form a working group;
2. the local Department staff will meet with the Working Group to discuss preseason and in-season management of the fishery and evaluate items such as, but limited to;
 - a. test fishery data;
 - b. CPUE data from historic and in-season commercial fisheries; and
 - c. in-season subsistence catch data;
 - d. it is understood that the purpose of these meetings

shall be to arrive at a consensus regarding the openings and closures of the Kuskokwim River fishery; if a consensus cannot be reached, emergency order authority will continue to be at the area management biologist's discretion.

3. the Department will announce the opening of the first commercial fishing period by June 10;
4. the fishing periods may be separated by six days to assist king salmon passage;
5. the Department and the Working Group will work towards the development of a comprehensive management plan for all of the Kuskokwim River salmon stocks, and report to the Board of their progress; and
6. calls for Working Group/Staff meetings will be at the discretion of the chair of the Working Group.

The opening and closing time of commercial salmon fishing periods will be one of the most notable changes for both subsistence and commercial fishermen in 1988. The normal commercial fishing period in District 1, the lower Kuskokwim River (Figure 2) and District 2, the middle Kuskokwim River (Figure 3) will be from 1:00 p.m. until 7:00 p.m. If the periods are longer than six hours, the extra time will be equally divided before 1:00 p.m. and after 7:00 p.m. The Department may no longer set the time of the fishing periods since this change was made a regulation at the request of the Lower Kuskokwim Advisory Committee.

In District 2, the middle Kuskokwim River, all subsistence nets will have to be out of the water beginning at 1:00 p.m. the day before any commercial fishing period. Subsistence fishing may begin at 1:00 a.m. on the day following a commercial opening. Subsistence fishermen should also be aware that the boundaries of District 2, the middle Kuskokwim River, changed (Figure 3). District 2, the middle Kuskokwim River, is now the Kuskokwim River from the High Bluffs below Kalakag upstream to Chuathbaluk.

The subsistence fishing closure in District 1, the lower Kuskokwim River changed to 16 hours before, during, and 6 hours after every commercial fishing period. Subsistence nets must be out of the water at 9:00 p.m. the day before each commercial fishing period. Nets may begin fishing again at 1:00 a.m. the morning after commercial fishing periods. Subsistence fishermen, please note the upstream boundary of District 1, the lower Kuskokwim (Figure 2) is now at Bogus Creek.

The subsistence closure applies to District 1, the lower Kuskokwim and no nets may be in the water 16 hours before, during, and 6 hours after every commercial opening. Kuskokuak Slough is still an exception. In Kuskokuak Slough subsistence nets must not be in the water 16 hours before and during commercial openings. Subsistence fishing may begin as soon as the commercial period is over. Kuskokuak Slough is closed to commercial fishing.

The Kuskokwim River from Bogus Creek upstream to the High Bluffs below Kalskag (Figures 2 & 3) is **CLOSED** to commercial fishing. Subsistence nets must be out of the water in this area 16 hours before, during, and 6 hours after each commercial fishing period in District 1. This is the same subsistence closure as in District 1, the lower Kuskokwim.

Subsistence fishermen upstream of Chuathbaluk complained that they did not hear the commercial period announcements because of the poor radio reception in that area. At the request of the Central Kuskokwim Advisory Committee, the Kuskokwim River upstream of Chuathbaluk is closed to commercial fishing. This will allow the subsistence fishermen upstream of Chuathbaluk to subsistence fish 7 days a week with no closures.

Kuskokwim Bay districts:

The Board of Fisheries adopted a management plan for District 4, Quinhagak that the Department will follow in 1988. The "DISTRICT 4 SALMON MANAGEMENT PLAN" requires the Department to manage the Quinhagak District in the following way:

1. the commercial salmon fishery must open before June 16;
2. when the commercial king salmon catch is less than 50% of the combined commercial catch of king and red salmon, the commercial salmon fishery will be managed based on the strength of the red salmon run;
3. commercial salmon fishing periods are established by emergency order but the department will allow at least one fishing period a week (there may be more than one fishing period a week), unless a severe conservation problem develops;
4. if a commercial closure is required the Department will decide by the 10th day whether to close the sport fishery on the species of concern.

In District 4, Quinhagak (Figure 4) the commercial fishermen told the Department that they prefer to fish from 6:00 p.m. until 6:00 a.m. until after July 4. At that time the fishing periods in District 4, Quinhagak will change to daylight hours from 9:00 a.m. until 9:00 p.m. Periods will normally be 12 hours long unless a reduction in fishing time is needed to reduce effort.

In District 5, Goodnews Bay (Figure 5) the normal commercial fishing period will be from 9:00 a.m. until 9:00 p.m. Last year the Goodnews Bay fishermen requested daylight fishing hours beginning in June. This fishing period provides daylight fishing in 1988.

There were several proposals from the Central Bering Sea Advisory Committee and the fishermen in Districts 4 and 5 to require registration to prevent large numbers of fishermen from moving between districts. After much discussion the Board decided not to require district registration. The Board did request that

whenever possible the Department should make the commercial openings in each district, including the Kuskokwim River districts, occur together to prevent fishermen from running from district to district. The 9:00 a.m. to 9:00 p.m. fishing period in District 4, Quinhagak and District 5, Goodnews Bay will overlap with the fishing period required by regulation in District 1, the lower Kuskokwim. Of course since run strength varies from district to district it will not always be possible to have coincidental commercial openings. Twelve hour openings might not be possible in Districts 4 and 5 if salmon runs are weak or effort is high.

In District 4, Quinhagak subsistence nets must be out of the water by 6:00 p.m. the day before a commercial fishing period. Subsistence fishing will begin at noon the day after a commercial fishing period. After July 4 when daylight fishing begins subsistence nets must be out of the water by 9:00 a.m. the day before a commercial fishing period. Subsistence fishing will begin again at 3:00 a.m. the day after the commercial fishing period.

District 5, Goodnews Bay subsistence nets must be out of the water by 9:00 a.m. the day before a commercial fishing period. Subsistence fishing will begin again at 3:00 a.m. the day after the commercial fishing period.

COMMERCIAL FISHERIES MANAGEMENT

Districts 1 and 2, The Kuskokwim River

Commercial fishing is only allowed in Districts 1 and 2. The boundaries of both districts are new in 1988 and fishermen should refer to Figures 2 and 3 before fishing. District 1, the lower Kuskokwim, includes the Kuskokwim River beginning at a line between Apokak Slough and Popokamiut upstream to a line located between Fish and Game regulatory markers located upstream of the mouth of Bogus Creek (Figure 2). PROCESSORS AND FISHERMEN: please note that the new addition to District 1 from Mishevik Slough to Bogus Creek is statistical area 335-13. Please report 335-13 on fish tickets for fish taken in this area.

District 2 includes the Kuskokwim River from ADF&G regulatory markers located at the High Bluffs upstream to ADF&G regulatory markers located at Chuathbaluk (Figure 3). The Kuskokwim River between Bogus Creek and the High Bluffs (between District 1 and 2) is closed to commercial fishing. The Kuskokwim River upstream of Chuathbaluk is closed to commercial fishing.

Gill nets may not exceed 50 fathoms in length, 45 meshes in depth, and may not be greater than 6 inch mesh in both districts.

No directed harvest of king salmon occurs in either district. The incidental guideline harvest level for king salmon in District 1, the lower Kuskokwim is 15,000 to 30,000 fish. In

District 2 the incidental harvest guideline for king salmon is 0 to 2,000 fish. These incidental harvest guidelines are taken during the red and chum salmon fishery.

The Board of Fisheries has not established harvest guidelines for chum salmon in District 1. District 2 has a guideline harvest range of 4,000 to 8,000 chum salmon. The commercial chum salmon harvest for the Kuskokwim River (Districts 1 and 2) normally ranges from 200,000 to 400,000 salmon (Table 2). Catches within this range normally provide for traditional subsistence requirements and adequate spawning escapements.

The Department will announce the first commercial opening in District 1 by 10 June in consultation with the Kuskokwim Salmon Working Group. Only District 1 downstream of Bethel will be open during the first fishing period. All openings are by emergency order based on run strength. A joint evaluation of test fishery data, historic and current CPUE data, subsistence catch data, etc by the Working Group and the Department will provide the basis for determining run strength. District 2 will open when subsistence catch reports and department projects show that chum salmon are available throughout the district, and that the incidental chinook salmon catch will be minimal.

The commercial harvest will not greatly exceed 300,000 chum salmon except under the following conditions:

- (1) Test fishing indexes exceed historic average CPUE for years with adequate escapement of chum salmon.
- (2) Commercial catch per unit effort (especially in early and middle July) is above average.
- (3) Subsistence fishermen report that adequate subsistence catches are being made.
- (4) Chum salmon escapement projects show adequate escapements are occurring.

Management options for insuring adequate escapements during poor returns include in order of priority:

- (1) Commercial harvest fishing time restrictions, including early closure.
- (2) Personal use fishing time restrictions, including early closure.
- (3) Subsistence harvest fishing time restrictions.

There are fewer red salmon than chum salmon in Districts 1 and 2. Historically, fishermen have not accurately identified red and chum salmon in their commercial or subsistence catches in the Kuskokwim River. For this reason, the true accounting of the red and chum salmon harvest in the main Kuskokwim River has not been accurately documented. Since 1981, fishermen, processors and the Department have worked together to accurately identify each species in the commercial harvest. Red salmon have comprised 10 to 24 percent of the combined chum-red salmon catch since 1981.

Before 1981 the reported red salmon catch was 2 percent or less of the combined chum-red salmon harvest. Recent years catch data and interviews with life-long residents of the drainage suggest that the recent increased catches are partly a result of increased red salmon returns. The previous 5 year average harvest of red salmon has been 70,500 (Table 2). Since 1981, the red salmon catch has ranged from 33,100 to 136,100. The catch should be similar in 1988.

A 10 to 20 day closure usually begins in mid-July following the peak of the chum salmon run. The Kuskokwim River reopens, usually by 1 August, when coho salmon predominate in test fishing and subsistence catches. The normal fishing schedule is two 6-hour periods a week. Fishing time is increased or decreased depending on run strength.

The commercial coho salmon harvest in the Kuskokwim River has averaged 452,500 salmon in the last 5-years (Table 2). In recent years the coho salmon catch has increased because of larger runs and more effort. The regulations establish a harvest guideline of 2,000 to 4,000 coho salmon for District 2. This harvest guideline was about 2 percent of the historic District 1 catch. The Department has allowed the District 2 catch of coho salmon to exceed the harvest guideline until it equaled about 2 percent of the District 1 catch during large coho salmon runs. The Board of Fisheries did not act upon a proposal to increase the District 2 harvest guideline in 1987. However, they did review the Department's management strategy and recommended no change.

During the last 5-year period, coho salmon have been the numerically and economically dominant species in the Kuskokwim River commercial harvest. Since 1981 the coho salmon run size has been increasing, particularly in even numbered years. The 1988 catch should be similar to the previous 5 year average of 452,500 and may exceed 600,000 (Table 2).

District 4, Quinhagak:

Commercial fishing in District 4 occurs in the marine waters of Kuskokwim Bay (Figure 4) near Quinhagak. All subsistence fishing must stop 24 hours before, during and 6 hours after each commercial fishing period in District 4 and in the Kanektok and Arolik Rivers. Gill nets may not exceed 50 fathoms in length, 45 meshes in depth, and may not be greater than 6 inch mesh in District 4.

The commercial king salmon season in District 4, will open before June 16, depending on the entry pattern of king salmon into the Kanektok River and as required by the District 4 Salmon Management Plan (see page 4). Commercial fishing is normally scheduled for two 12-hour periods per week from mid-June to early July when the target species is king salmon. These periods are from 6:00 p.m. until 6:00 a.m. After 4 July the fishermen prefer

daylight hours so the fishing periods will change to 9:00 a.m. to 9:00 p.m.

The commercial king salmon harvest in District 4 ranges from 10,000 to 46,000 fish. Comparing catch data collected by the Department with data collected in previous years is the primary means of assessing run strength. Harvest levels increase or decrease in response to the Department's assessment of in-season run strength by adjusting fishing time via emergency order.

King salmon abundance has been decreasing since the peak commercial harvest of 46,385 king salmon in 1983. However, the king runs have continued to be above average. The 1988 return should be similar to recent years and the harvest should exceed 20,000 (Table 3).

In early July, red salmon are the target species in District 4. The District 4 Salmon Management Plan requires the Department to manage for red salmon once they exceed 50 percent of the combined king and red salmon catch. The recent 5 year average catch of red salmon has been 16,500 in District 4 (Table 3). The catch should be average in 1988.

Chum salmon are taken incidentally to the other species in District 4. The previous 5 year average catch is 31,400; the 1988 catch should be similar (Table 3).

Status of coho salmon is difficult to determine, as aerial surveys are the only form of escapement monitoring available in the district. Weather conditions in late August and September often prevent aerial surveys. The 1987 commercial coho catch was average and the coho salmon escapement index count was 20,100. This count was below the objective of 25,000 (Table 1) but the survey was on 20 August, which is early and the objective was probably achieved.

Annual commercial coho salmon harvests in District 4 have averaged 65,800 fish during the 1982-86 five year period (Table 3). Normally the fishing schedule is three (Monday, Wednesday, Friday) 12-hour fishing periods per week. This schedule has in the past allowed commercial catches that still provide adequate spawning escapements and subsistence harvests. The three period per week schedule is frequent enough to compensate for any "lost" (because of weather) fishing time. District 4 closes by regulation on September 8.

District 5, Goodnews Bay:

Commercial salmon fishing in District 5 occurs in the marine waters of Goodnews Bay (Figure 5). The Goodnews River is closed to commercial fishing. All subsistence nets must be out of the water for 24 hours before, during and 6 hours after every commercial opening in the District and in the Goodnews River. Fishermen must use six inch or less stretched mesh nets which may

not exceed 50 fathoms in length or 45 meshes in depth. These gear restrictions help managers to reduce the selective harvest of the larger and more productive chinook salmon, while allowing the take of the more abundant red salmon.

Commercial fishing is normally scheduled for two 12-hour periods per week from mid-June to early July. These periods are from 9:00 a.m. until 9:00 p.m. The time of the open periods has changed from previous years. This change was made last year at the request of local fishermen. The 9:00 a.m. to 9:00 p.m. fishing period will coincide with the fishing periods in other districts and reduce the number of fishermen traveling between districts. The daylight fishing hours also enhance fishermen safety.

A counting tower on the middle fork of the Goodnews River estimates salmon escapements. King, red and chum salmon are migrating during the time the tower is in operation. Coho and pink salmon are also counted, but the project ending date precludes adequate assessment of the escapement of these species. The primary objective of the project is to provide daily escapement information to help management of the commercial salmon fishery in Goodnews Bay and to allow accurate interpolation of the aerial survey escapement data collected in the Goodnews River drainage.

The tower count, commercial catch, and aerial surveys are the only in-season indicators of run strength. Red salmon are the target species in June and July. During June in recent years fishing time restrictions have been necessary to protect the less abundant king salmon. Fortunately, king salmon escapement objectives were achieved or approached while still allowing the total utilization of the red and chum salmon. Normally 1 or 2 twelve hour fishing periods a week occur during June and early July when the king salmon are running. Depending on effort levels and red salmon escapement fishing time is normally increased to two or three 12 hour periods a week following the king salmon run in July.

The red salmon catch has averaged 19,600 in recent years (Table 4). An average return of red salmon in 1988 should result in a 20,000 fish catch. The incidental king salmon catch should range from 3,000 to 6,000 fish (Table 4). The incidental chum salmon catch averages 10,000 fish (Table 4).

The management strategy in District 5 for coho salmon (three 12-hour periods per week) is similar to that used in District 4. The coho salmon return should be average in 1988. The coho salmon catch in Goodnews Bay should approach 20,000 to 30,000 fish (Table 4). District 5 closes by regulation on September 8.

SUMMARY OF 1988 COMMERCIAL SALMON REGULATIONS, KUSKOKWIM AREA

This summary of regulations is for informational use only. This

list of regulations is not complete and it is not official. Copies of complete regulations are available at the Bethel Fish and Game office.

1. Commercial Fishing Districts:

A. District 1, the lower Kuskokwim River, consists of that portion of the Kuskokwim River upstream of a line from Apokak Slough (60° 08' N. lat. 162° 28' W. long.) to the southernmost tip of Eek Island to Popokamiut (60° 04' N. lat. 162° 28' W. long.) to a line between ADF&G regulatory markers located just upstream of the mouth of Bogus Creek.

B. District 2 is that portion of the Kuskokwim River from ADF&G regulatory markers located at the High Bluffs upstream to ADF&G regulatory markers at the downstream edge of Chuathbaluk.

C. District 4, Quinhagak consists of the Kuskokwim Bay between ADF&G regulatory markers placed at the westernmost edge of the mouth of Oyak Creek and at the southernmost edge of the mouth of the Arolik River.

D. District 5, Goodnews Bay consists of that portion of Goodnews Bay inside a line between Department of Fish and Game regulatory markers placed near the bay entrance and a line between Department of Fish and Game regulatory markers placed near the mouth of the Ufigag River and on the opposite shore near the mouth of the Tunulik River.

E. All other waters are closed to commercial salmon fishing.

2. Commercial Gill Net Specifications and Operation:

A. Only set and drift gill nets are legal gear.

B. Fishermen shall fish or help in fishing only one type of gear at any time, they cannot have set nets out while they are drifting.

C. The length of a set or drift gill net may not exceed 50 fathoms.

D. Salmon may be taken only with gill nets of 6 inch or smaller mesh.

E. Gill nets with 6 inch or smaller mesh may not be more than 45 meshes deep.

F. No gill net may obstruct more than one-half the width of any waterway. In the intertidal zone this restriction applies at all stages of the tide.

G. All gill nets in operation must have a red keg, buoy or cluster of floats plainly and legibly marked with the fisherman's five digit CFEC permit serial number.

H. In District 5 no part of the set gill net may be set or operated within 300 feet of any part of another set gill net.

I. Gill net web must contain at least 30 filaments and all filaments must be of equal diameter or the web must contain at least six filaments, each of which must be at least 0.20 millimeter in diameter.

3. Commercial Fishing Seasons and Periods:

A. All districts open by emergency order.

B. KUSKOKWIM RIVER SALMON MANAGEMENT PLAN. (a) The objective of the Kuskokwim River Salmon Management Plan is to provide guidelines for the management of the Kuskokwim River commercial salmon fishery that will result in sustained yields of the salmon stocks large enough to provide for subsistence needs and an economically viable commercial fishery.

(b) It is the intent of the Board of Fisheries that the Kuskokwim River king salmon stock be managed in a conservative manner consistent with sustained yield principles and the subsistence priority and, consistent with intent, that the available surpluses of other salmon stocks be taken. To accomplish these objectives the department shall manage the Kuskokwim River commercial salmon fishery as follows:

- (1) there shall be no directed commercial king salmon fishery;
- (2) for the years 1988 and 1989, the fishery shall open no later than June 20;
- (3) only those waters of District 1 downstream of ADF&G regulatory markers located at Bethel shall be open during the first period;
- (4) there shall be at least three eight-hour fishing periods in June;
- (5) although no directed fishery on king salmon is allowed, the incidental catch guideline harvest level for king salmon during fisheries directed on other species is 15,000 to 35,000 fish;
- (6) to the extent possible, the department shall provide at least 24 hours advance opening of District 1 fishing periods;
- (7) District 1 fishing periods are from 1:00 p.m. until 7:00 p.m.; when longer fishing periods are allowed, the extra time is to be equally divided before 1:00 p.m. and after 7:00 p.m.

C. JOINT STATEMENT ON THE MANAGEMENT OF
THE KUSKOKWIM RIVER SALMON FISHERY

The Board of Fisheries, the Department of Fish and Game, the local Fish and Game advisory committees, and local subsistence and commercial fishermen agree to work together towards the goal of increasing the sustained yield of Kuskokwim River salmon stocks to provide for subsistence needs and an economically viable commercial fishery. To achieve that goal, the parties

agree to the following:

1. Kuskokwim River salmon users will form a working group;
 2. the local Department staff will meet with the Working Group to discuss preseason and in-season management of the fishery and evaluate items such as, but limited to;
 - a. test fishery data;
 - b. CPUE data from historic and in-season commercial fisheries; and
 - c. in-season subsistence catch data;
 - d. it is understood that the purpose of these meetings shall be to arrive at a consensus regarding the openings and closures of the Kuskokwim River fishery; if a consensus cannot be reached, emergency order authority will continue to be at the area management biologist's discretion.
 3. the Department will announce the opening of the first commercial fishing period by June 10;
 4. the fishing periods may be separated by six days to assist king salmon passage;
 5. the Department and the Working Group will work towards the development of a comprehensive management plan for all of the Kuskokwim River salmon stocks, and report to the Board of their progress; and
 6. calls for Working Group/Staff meetings will be at the discretion of the chair of the Working Group.
 - D. Harvest guidelines in District 2 are:
 1. 0-2,000 king salmon;
 2. 4,000-8,000 chum salmon,
 3. 2,000-4,000 coho salmon.
 - E. Districts 1 and 2 will close on September 1.
 - F. District 4
 - (1) Will open before 16 June.
 - (2) There shall be at least one fishing period a week unless a severe conservation problem exists.
 - (3) If the commercial salmon fishery is closed the department shall decide by the tenth day whether the sport fishery on the species of concern will close.
 - G. District 4 and 5 will close on 8 September.
4. Closed Waters
- A. All waters of the Kuskokwim River drainage not included

- in Districts 1 and 2.
- B. All waters of Kuskokuak Slough.
- C. The Goodnews, Kanektok and Arolik Rivers.
- D. All waters of Kuskokwim Area not included in Districts 4, and 5.

YOU MAY OBTAIN THE CURRENT COMMERCIAL SALMON OPENINGS 24 HOURS A DAY BY CALLING 543-2598.

SUBSISTENCE SALMON FISHING REGULATIONS

A. SALMON MAY ONLY BE TAKEN FOR SUBSISTENCE BY RESIDENTS OF THE KUSKOKWIM AREA, except those persons living on the U.S. military installations located on Cape Newenham, Sparevohn, and Tatalina.

B. IT IS UNLAWFUL TO BUY OR SELL SUBSISTENCE-TAKEN FISH OR THEIR PARTS, OR THEIR EGGS.

C. In District 1 and in those waters of the Kuskokwim River between Districts 1 and 2, excluding the Kuskokuak Slough, salmon may be taken anytime except salmon may not be taken 16 hours before, during, and for six hours after each open commercial salmon fishing period for District 1.

D. Kuskokuak Slough salmon may be taken at anytime except salmon may not be taken 16 hours before and during each open commercial salmon fishing period for District 1.

E. In District 2 and tributaries flowing into the Kuskokwim River salmon may be taken at any time except from June 1 through September 8 salmon may not be taken 24 hours before, during and 6 hours after each open commercial fishing period in the district.

F. In District 4 and 5 salmon may be taken at any time except from June 1 through September 8 salmon may not be taken 24 hours before, during and 6 hours after each open commercial fishing period in the district.

G. Only gill net, beach seine or fishwheel are legal gear for taking salmon, salmon may also be taken by spear in the Holitna River drainage.

H. All unattended fishing gear must have the fishermen's initial, last name, and address written on it legibly.

I. The length of set gill nets or drift gill nets in use by any individual for taking salmon may not exceed 50 fathoms.

J. Set gill net must connect to the bank, fish perpendicular to the bank and in a straight line.

K. In that portion of the Kuskokwim River drainage from the southern end of the Eek Island, upstream to the mouth of the Kolmakoff River, no part of a set gill net located within the tributary of the Kuskokwim River may set or operated within 150 feet of any part of another gill net.

L. A gill net may obstruct not more than one-half of the width of any fish stream. A stationary fishing device may obstruct not more than one-half the width of any salmon stream.

M. The maximum depth of gill nets is as follows;

- (1) gill nets with 6 inch or smaller mesh may not be more than 45 meshes in depth.

(2) gill nets with greater than 6 inch may not be more than 35 meshes in depth.

N. The Goodnews River is closed east of a line between ADF&G regulatory markers placed near the mouth 24 hours before, during and 6 hours after each commercial salmon fishing period.

O. The Kanektok River is closed upstream of ADF&G regulatory markers placed near the mouth 24 hours, before, during and 6 hours after each open commercial salmon fishing period.

YOU MAY OBTAIN THE CURRENT COMMERCIAL SALMON OPENINGS 24 HOURS A DAY BY CALLING 543-2598.

PERSONAL USE FISHERY

A. Salmon may only be taken for personal use by a holder of a valid resident Alaska sport fishing license or by an Alaskan resident exempt from licensing.

B. In the Kuskokwim Area salmon may only be taken by people who hold a Kuskokwim Area Personal Use Salmon Fishing Permit. You may obtain a Kuskokwim Area Personal Use Salmon Fishing Permit by seeing the Commercial Fisheries Division, Room 215, Bethel Native Cooperation Building, Bethel, Alaska; mailing address PO Box 90, Bethel, Alaska 99559; telephone 543-2433.

C. Salmon may only be taken from July 1 through September 30 by permitted personal use fishermen in the Kuskokwim Area.

D. Salmon taken for personal use may not be used for bait or fed to dogs. It is unlawful to buy, sell, trade or barter fish or their parts taken for personal use.

E. Each personal use fishermen shall plainly and legibly inscribe their first initial, last name, and home address on a keg or buoy attached to a gill net.

F. Both lobes of the caudal or tail fin of personal use fish must be removed immediately upon landing.

G. In District 1 and in those waters of the Kuskokwim River between Districts 1 and 2, excluding the Kuskokuak Slough, salmon may not be taken 16 hours before, during, and for six hours after each open commercial salmon fishing period for District 1.

H. Kuskokuak Slough salmon may not be taken 16 hours before and during each open commercial salmon fishing period for District 1.

I. In District 2 and tributaries flowing into the Kuskokwim River salmon may not be taken 24 hours before, during and 6 hours after each open commercial fishing period in the district.

J. In District 4 and 5 salmon may not be taken 24 hours before, during and 6 hours after each open commercial fishing period in the district.

K. Only gill net, beach seine or fishwheel are legal gear for taking salmon, salmon may also be taken by spear in the Holitna River drainage.

L. The length of set gill nets or drift gill nets in use by any individual for taking salmon may not exceed 50 fathoms.

M. Set gill net must connect to the bank, fish

perpendicular to the bank and in a straight line.

N. In that portion of the Kuskokwim River drainage from the southern end of the Eek Island, upstream to the mouth of the Kolmakoff River, no part of a set gill net located within the tributary of the Kuskokwim River may set or operated within 150 feet of any part of another gill net.

O. A gill net may obstruct not more than one-half of the width of any fish stream. A stationary fishing device may obstruct not more than one-half the width of any salmon stream.

P. The maximum depth of gill nets is as follows;

(1) gill nets with 6 inch or smaller mesh may not be more than 45 meshes in depth.

(2) gill nets with greater than 6 inch may not be more than 35 meshes in depth.

Q. The Goodnews River is closed east of a line between ADF&G regulatory markers placed near the mouth 24 hours before, during and 6 hours after each commercial salmon fishing period.

R. The Kanektok River is closed upstream of ADF&G regulatory markers placed near the mouth 24 hours, before, during and 6 hours after each open commercial salmon fishing period.

YOU MAY OBTAIN THE CURRENT COMMERCIAL SALMON OPENINGS 24 HOURS A DAY BY CALLING 543-2598.

Table 1. Kuskokwim Area escapement index objectives for chinook, sockeye, coho and chum salmon.

Escapement Objectives 1/ Chinook Sockeye Coho Chum					
KUSKOKWIM RIVER:					

1.	Kwethluk River	1.0	-	-	7.0
	a. 3-step Mt. to Canyon Cr.	0.2	-	-	-
	b. Canyon Creek				
2.	Kisaralik River				
	a. Airstrip to Kisaralik L.	1.0	-	-	8.0
	b. Kasigluk R. (upper to lower)	1.0	-	-	8.0
3.	Tuluksak R. (Fog R. to Bear Cr.)	0.4	-	-	5.0
4.	Aniak River				
	a. Buckstock R. to Aniak L.	1.5	-	-	10.0
	b. Salmon River	1.6	-	-	3.0
	c. Aniak Sonar Project 2/	-	-	-	250.0
5.	Holitna River				
	a. Nogamut to Kashegegok	2.0	1.0	-	49.0
	b. Kogruluk Weir 3/	10.0	2.0	25.0	30.0
6.	Salmon River (Pitka Fork)	1.3	-	-	-
KUSKOKWIM BAY:					

1.	Kanektok River to Kagati Lake	5.8	32.0	25.0	54.0
2.	Goodnews River System				
	a. Main Fork and lakes	1.6	15.0	15.0	17.0
	b. Middle Fork and lakes	0.8	5.0	2.0	4.0
	c. Middle Fork Tower Project 4/	3.5	40.0	-	15.0

- 1/ Escapement objectives in thousands of fish are preliminary and are subject to change as additional data becomes available. Unless otherwise indicated, escapement objectives are based on aerial index counts which do not represent total escapement, but do reflect annual spawner abundance trends using standard survey methods under acceptable survey conditions.
- 2/ Sonar total escapement estimates.
- 3/ Total Kogruluk River escapement estimates.
- 4/ Tower total escapement estimates.

Table 2. Lower Kuskokwim River, District 1, and the middle Kuskokwim River, District 2, combined commercial salmon harvest, 1960-1987.

Year	Chinook	Sockeye	Coho	Pink	Chum	Total
1960	5,969	0	2,498	0	0	8,467
1961	18,918	0	5,044	0	0	23,962
1962	15,341	0	12,432	0	0	27,773
1963	12,016	0	15,660	0	0	27,676
1964	17,149	0	28,613	0	0	45,762
1965	21,989	0	12,191	0	0	34,180
1966	25,545	0	22,985	0	0	48,530
1967	29,986	0	56,313	0	148	86,447
1968	34,278	0	127,306	0	187	161,771
1969	43,997	322	83,765	0	7,165	135,249
1970	39,290	117	38,601	44	1,664	79,716
1971	40,274	2,606	5,253	0	68,914	117,047
1972	39,454	102	22,579	8	78,619	140,762
1973	32,838	369	130,876	33	148,746	312,862
1974	18,664	136	147,269	84	171,887	338,040
1975	21,720	23	81,945	10	181,840	285,538
1976	30,735	2,971	88,501	133	177,864	300,204
1977	35,830	9,379	241,364	203	248,721	535,497
1978	45,641	733	213,393	5,832	248,656	514,255
1979	38,966	1,054	219,060	78	261,874	521,032
1980	35,881	360	222,012	803	483,211	742,267
1981	47,663	48,375	211,251	292	418,677	726,258
1982	48,234	33,154	447,117	1,748	278,306	808,559
1983	33,174	68,855	196,287	211	267,698	566,225
1984	31,742	48,575	623,447	2,942	423,718	1,130,424
1985	37,889	106,647	335,606	75	199,478	679,695
1986	19,414	95,433	659,988	3,422	309,213	1,087,470
1987 1/	35,323	136,144	399,428	43	570,580	1,141,518
FIVE YEAR AVERAGE (1982-1986)						
	34,091	70,533	452,489	1,680	295,683	854,475

1/ Preliminary data. Does not include confiscated or the Department's test fish project deliveries.

Table 3. Quinhagak District commercial salmon harvest, 1960 - 1987.

Year	Chinook	Sockeye	Coho	Pink	Chum	Total
1960	0	5,649	3,000	0	0	8,649
1961	4,328	2,308	46	90	18,864	25,636
1962	5,526	10,313	0	4,340	45,707	65,886
1963	6,555	0	0	0	0	6,555
1964	4,081	13,422	379	939	707	19,528
1965	2,976	1,886	0	0	4,242	9,104
1966	278	1,030	0	268	2,610	4,186
1967	0	652	1,926	0	8,087	10,665
1968	8,879	5,884	21,511	75,818	19,497	131,589
1969	16,802	3,784	15,077	953	38,206	74,822
1970	18,269	5,393	16,850	15,195	46,556	102,263
1971	4,185	3,118	2,982	13	30,208	40,506
1972	15,880	3,286	376	1,878	17,247	38,667
1973	14,993	2,783	16,515	277	19,680	54,248
1974	8,704	19,510	10,979	43,642	15,298	98,133
1975	3,928	8,584	10,742	486	35,233	58,973
1976	14,110	6,090	13,777	31,412	43,659	109,048
1977	19,090	5,519	9,028	202	43,707	77,546
1978	12,335	7,589	20,114	47,033	24,798	111,869
1979	11,144	18,828	47,525	295	25,995	103,787
1980	10,387	13,221	62,610	21,671	65,984	173,873
1981	24,524	17,292	47,557	160	53,334	142,867
1982	22,106	25,685	73,652	11,838	33,346	166,627
1983	46,385	10,263	32,442	168	23,090	112,348
1984	33,652	17,258	135,342	16,249	50,424	252,925
1985	30,401	7,876	29,992	28	20,418	88,715
1986	22,835	21,484	57,544	8,700	29,700	140,263
1987 1/	26,022	6,489	50,070	66	8,557	91,204
FIVE YEAR AVERAGE (1982-1986)	31,076	16,513	65,794	7,397	31,396	152,176

1/ Preliminary harvest figures.

Table 4. Goodnews Bay, District 5, commercial salmon harvest, 1968 - 1987.

YEAR	CHINOOK	SOCKEYE	COHO	PINK	CHUM	TOTAL
1968	-	-	5,458	-	-	5,458
1969	3,978	6,256	11,631	298	5,006	27,169
1970	7,163	7,144	6,794	12,183	12,346	45,630
1971	477	330	1,771	0	301	2,879
1972	264	924	925	66	1,331	3,510
1973	3,543	2,072	5,017	324	15,781	26,737
1974	3,302	9,357	21,340	16,373	8,942	59,314
1975	2,156	9,098	17,889	419	5,904	35,466
1976	4,417	5,575	9,852	8,453	10,354	38,651
1977	3,336	3,723	13,335	29	6,531	26,954
1978	5,218	5,412	13,764	9,103	8,590	42,087
1979	3,204	19,581	42,098	201	9,298	74,382
1980	2,331	28,632	43,256	7,832	11,748	93,799
1981	7,190	40,273	19,749	11	13,642	80,865
1982	9,476	38,877	46,683	4,673	13,829	113,538
1983	14,117	11,716	19,660	0	6,766	52,259
1984	8,612	15,474	71,176	4,711	14,340	114,313
1985	5,793	6,698	16,498	8	4,784	33,781
1986	2,723	25,112	19,378	4,447	10,355	62,015
1987 1/	3,357	27,758	29,057	54	20,381	80,607
FIVE YEAR AVERAGE (1982-1986)	8,144	19,575	34,679	2,768	10,015	75,181

1/ Preliminary harvest figures.

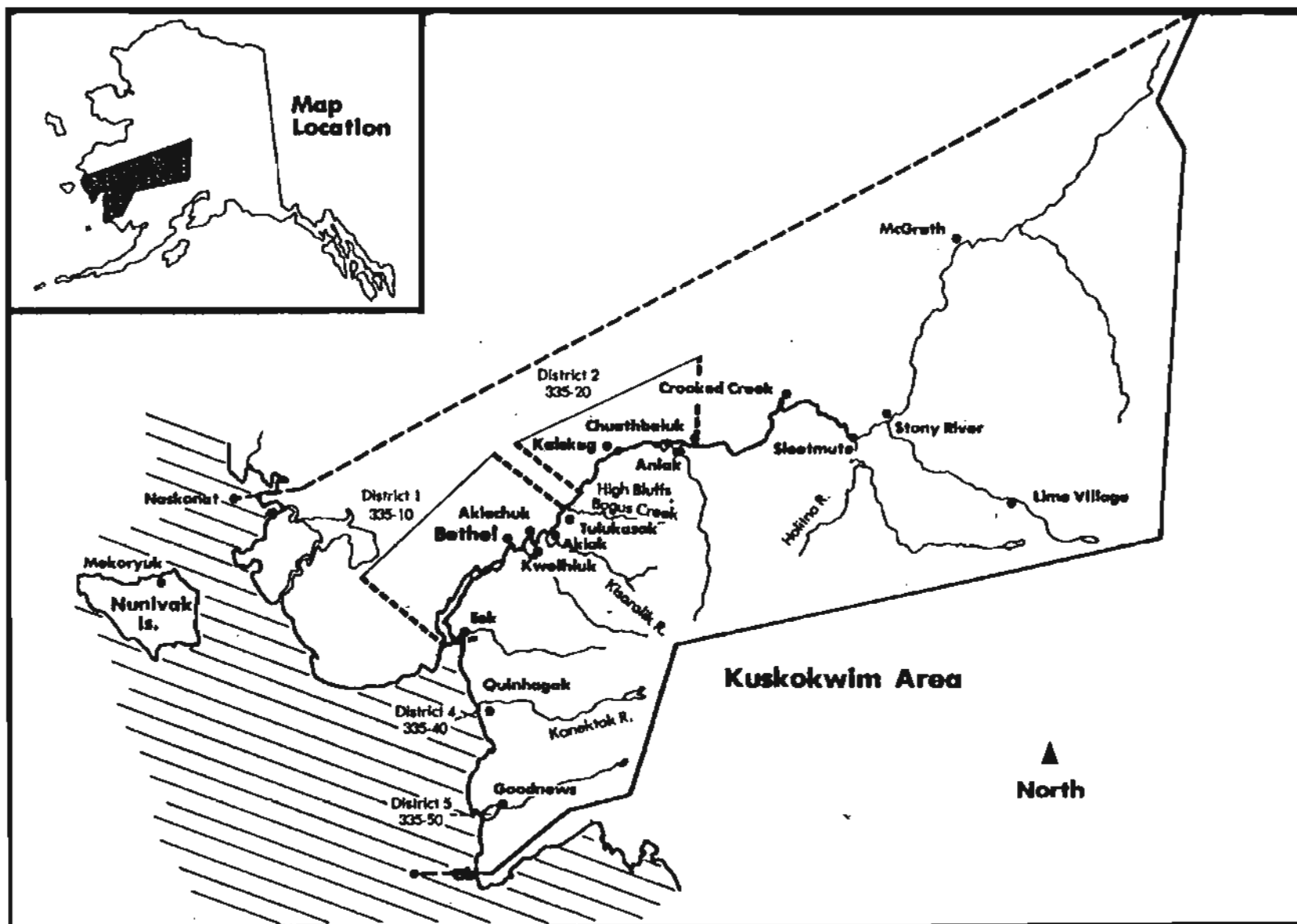


Figure 1. Kuskokwim Area Map.

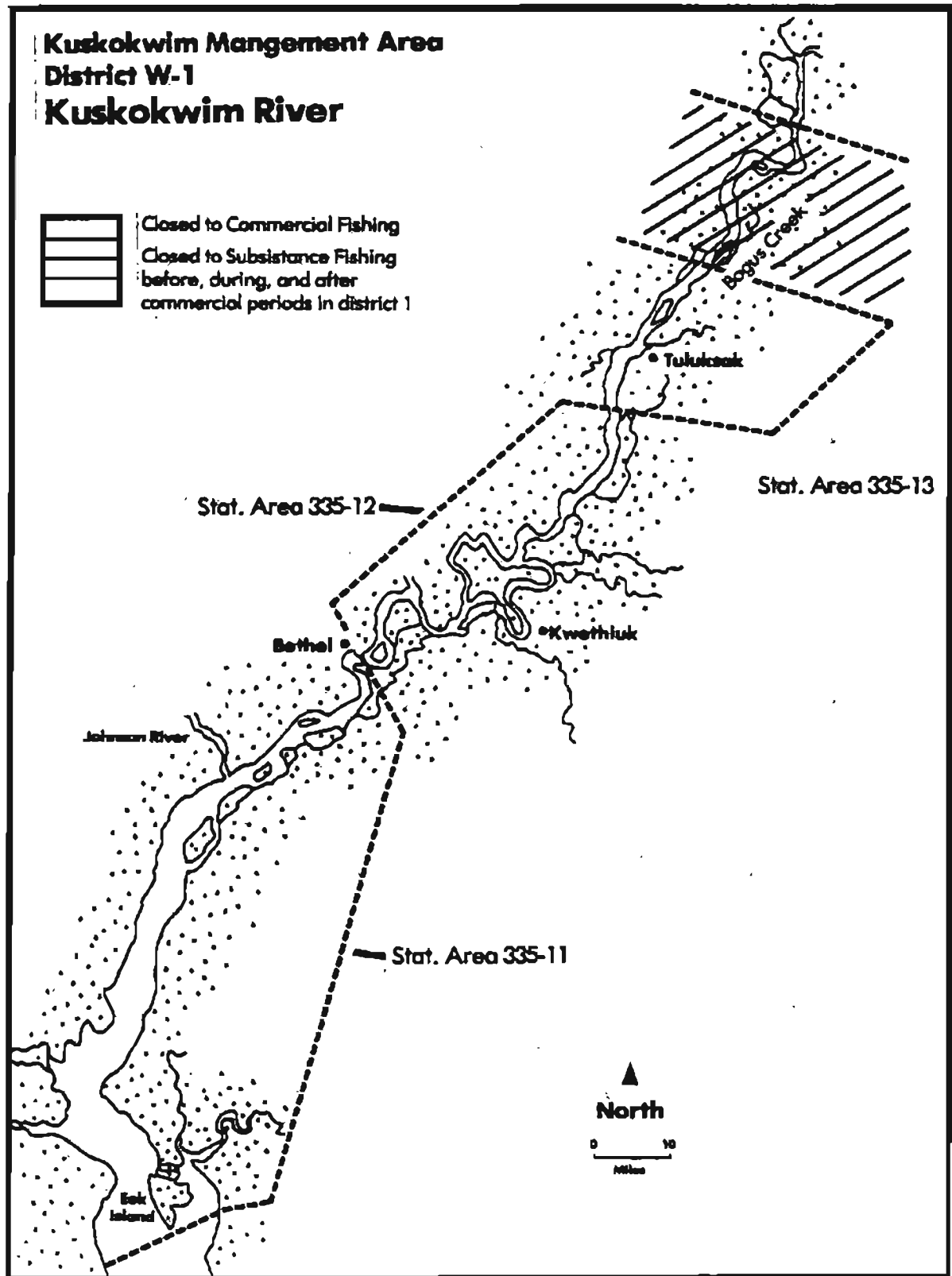


Figure 2. Kuskokwim Management Area, District W-1

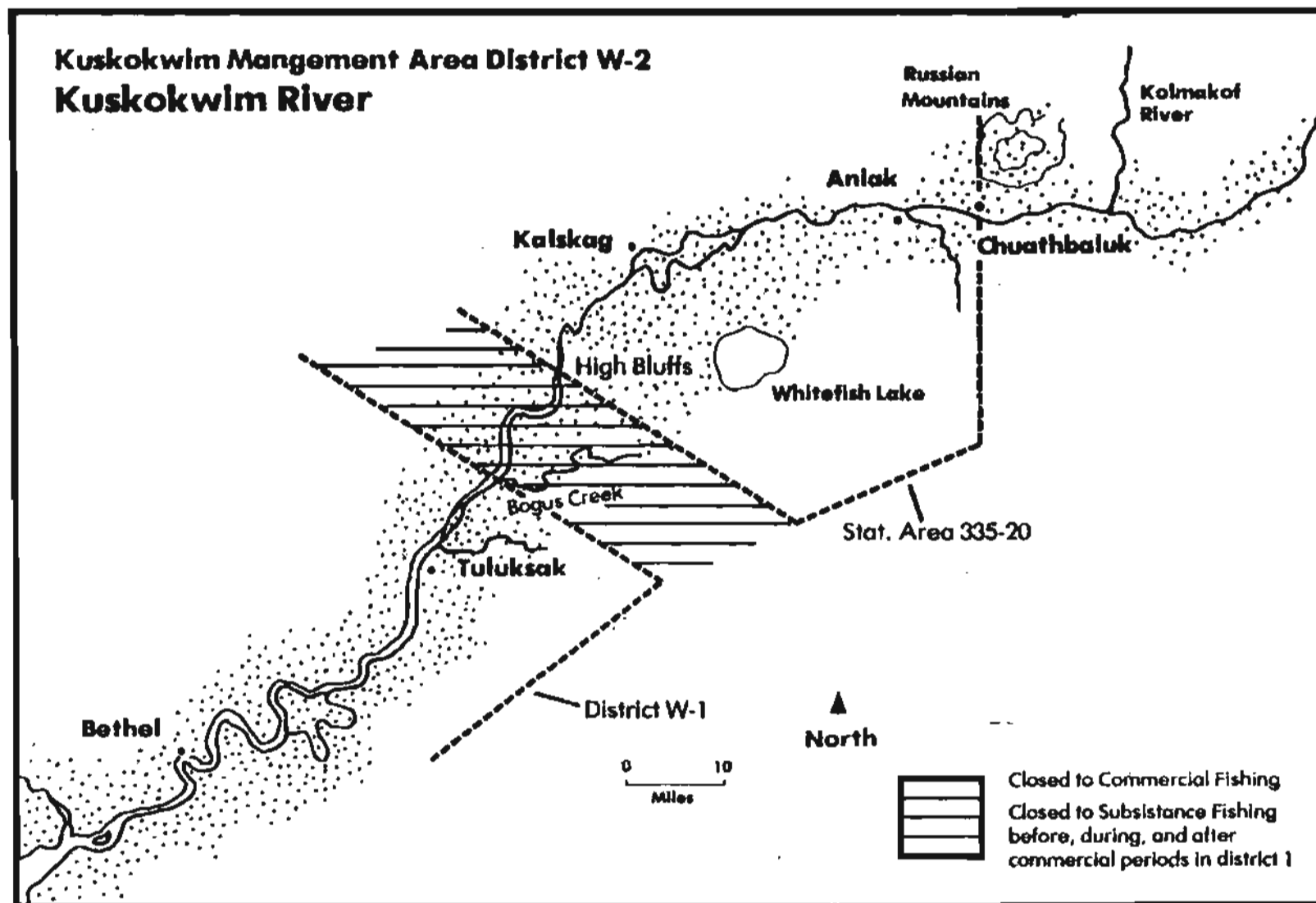


Figure 3. Kuskokwim Management Area, District W-2

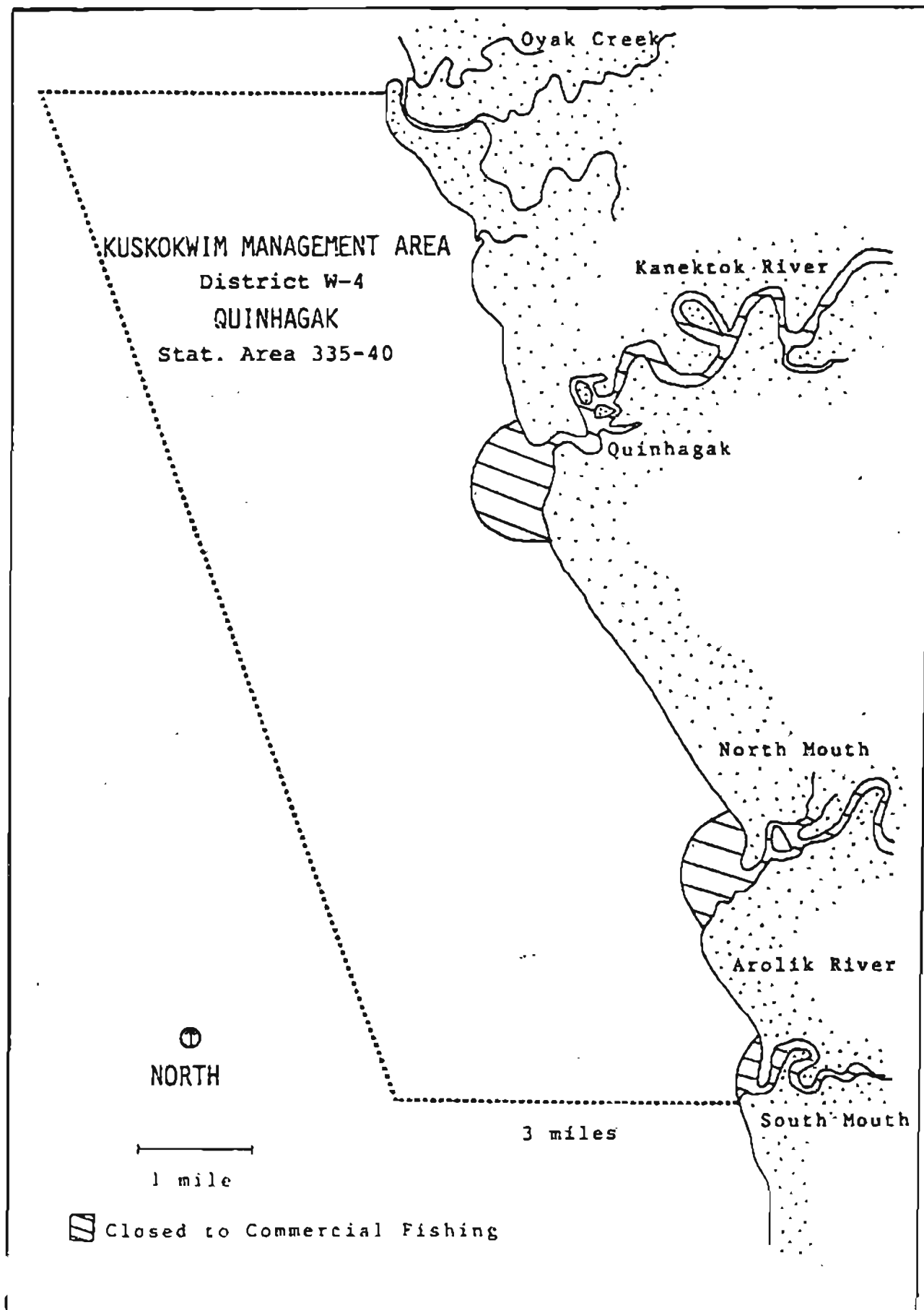


Figure 4. Kuskokwim Management Area, District W-4.

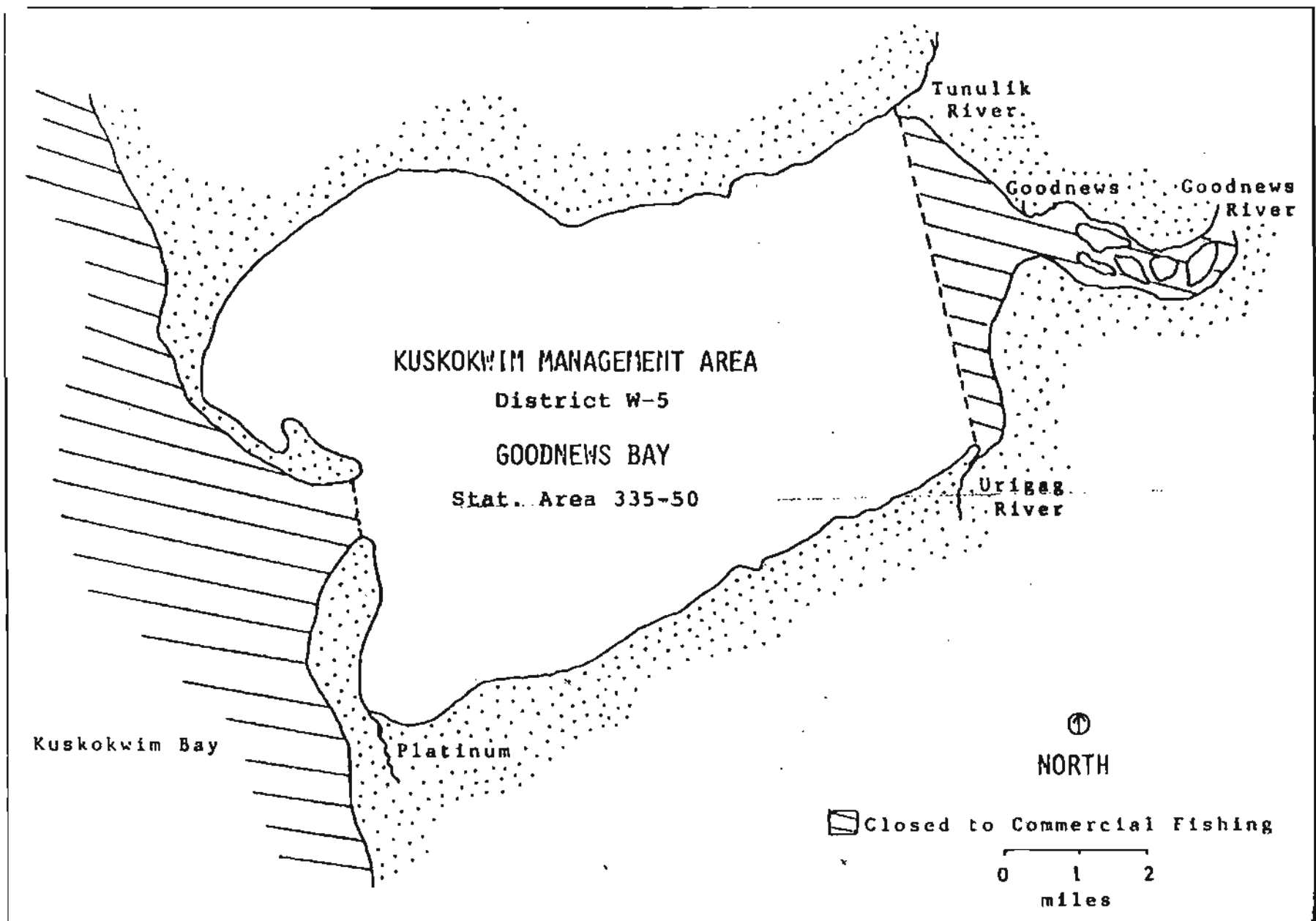


Figure 5. Kuskokwim Management Area, District W-5.

KUSKOKWIM RIVER SALMON MANAGEMENT PLAN
IN-SEASON SUBSISTENCE SALMON SURVEY

This project consists of an in-season subsistence salmon survey on the Kuskokwim River to take place from June 1, 1988 to August 31, 1988. Survey data will be collected on a daily basis by field staff in 12 different locations along the Kuskokwim River of at least ten fishermen per location. Data will be collected for fish caught on the main Kuskokwim River. Tributary catches will not be collected or included. Data collected from these sites will include such information as location, date, gear type, net size and depth, duration of set or drift, and number of fish caught according to species. A form used by survey monitors has been developed and is attached to this project summary.

The data will either be radioed or telephoned to a coordinator in Bethel who will tabulate and enter the data into a computer data base management system. The data base management system will provide raw data as well as summary data, including a calculation of CPUE ($6,000 \times \text{catch (by species)} \div \text{fms net} \times \text{minutes (soak time)}$). The data will be prepared in spreadsheet format and graphic format for presentation at work group meetings. It is estimated that there will be a one to two day lag time from the catch date to reporting of data to data preparation and formatting. This data will then be used to assist in determining current timing and distribution of the run of salmon, and indication of run strength during the months of June, July and August.

A Survey Coordinator has been hired. Trim Nick of Nunapitchuk has been hired for this position. His first day of work will begin Monday May 23rd. Two people have been identified for the up-river portion of this survey. George Morgan, Jr. will survey for the Kalskag area, and David Simeon will survey for Chuathbaluk. Two others for the Bethel and Napakiak area surveys has been identified but not yet hired. Trim will be actively recruiting with AVCP to fill the remainder of the survey positions before the end of the month. Job notices have been posted in the three stores in Bethel, the Tundra Drums Newspaper, AVCP, DCRA, Job Center, and the affected communities. Trim will be primarily responsible for the twelve positions in the field. He will train and supervise their work.